Q12. True or False

1. False
2. True
3. True
4. False
5. True
6. False
7. False
8. True
9. True
10. True \*
11. True \*

Q43. With an array based stack, when the object is created, memory is allocated based on the size of the array and cannot be changed after. So if there is a need for a larger array, a new objected has to be created. If there is no need for the excess space in the array, the memory will be wasted. With a linked list, the nodes are take up only the exact amount of memory needed for the list. No more no less.

Q50.

1. 5 7 8 \* + = 5 + (7 \* 8) = **61**
2. 5 7 8 \*+ = 5 \* (7 + 8) = **75**
3. 5 7 + 8 \* = (5 + 7) \* 8 = **96**
4. 1 2 + 3 4 + 5 6 \* 2 \* \* + = (((5\*6)\*2)\*(3+4)+(1+2) = **423**

Q4.

1. **The base case**:



1. **The general case**:

Q5.

1. -1
2. 120
3. 1